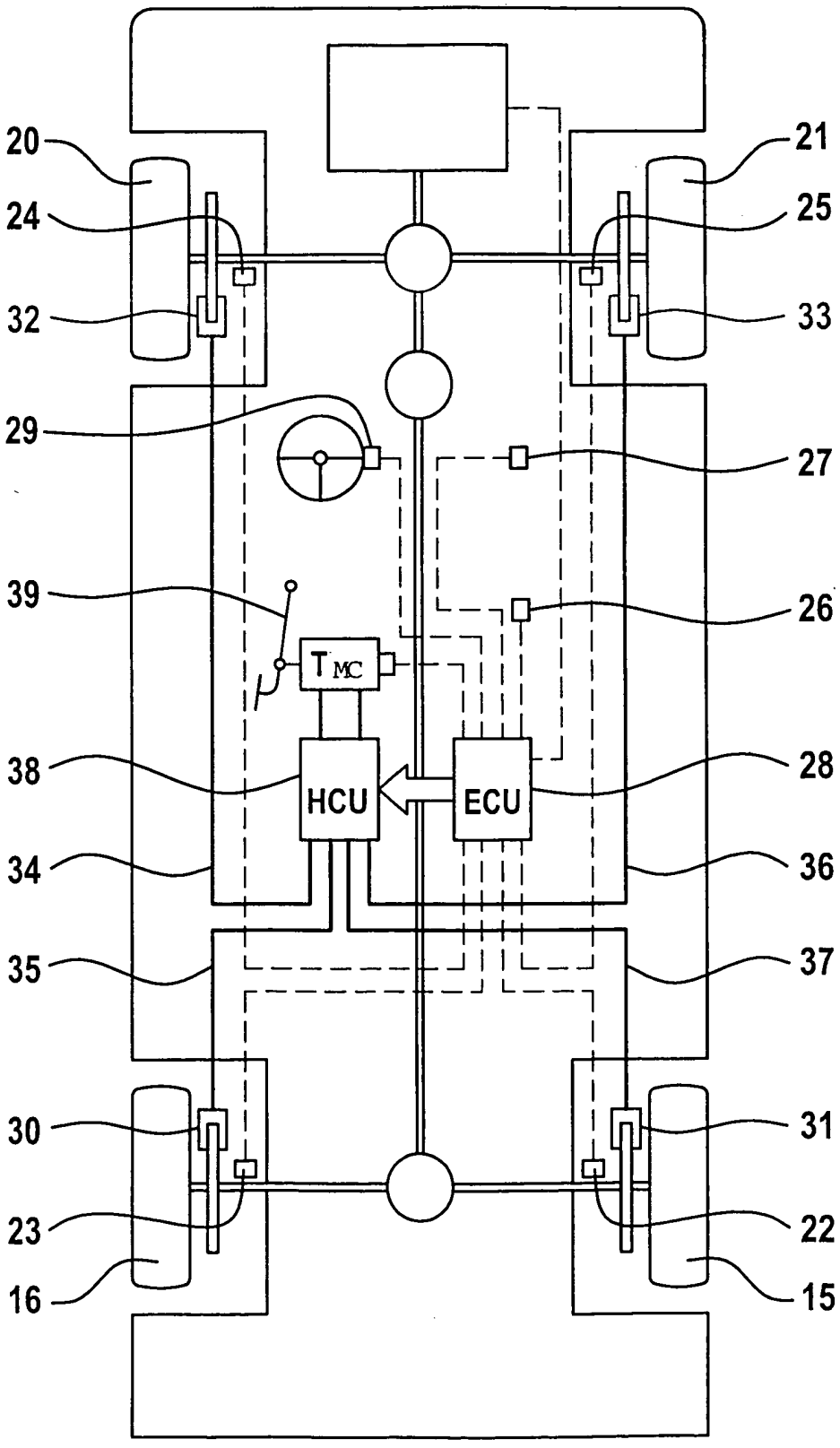
Fig. 1


20
21
24
25
32
33
29
27
39
26
T_{MC}
38
HCU
ECU
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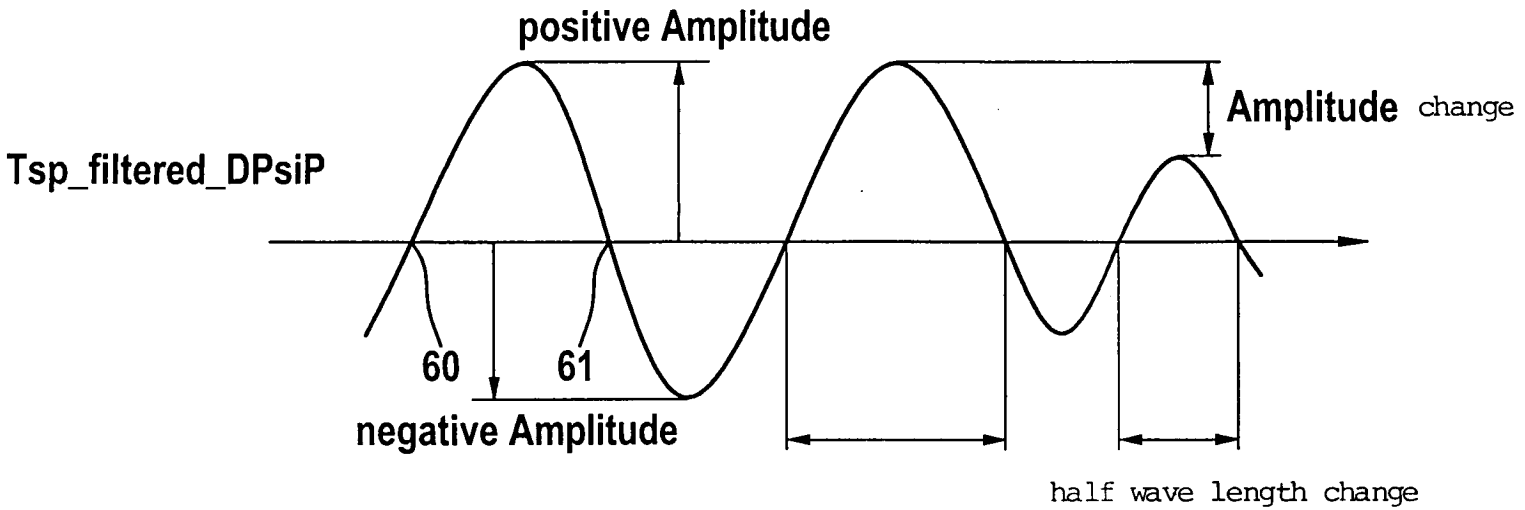
16
15

Analysys Tsp_filtered_DPsiP

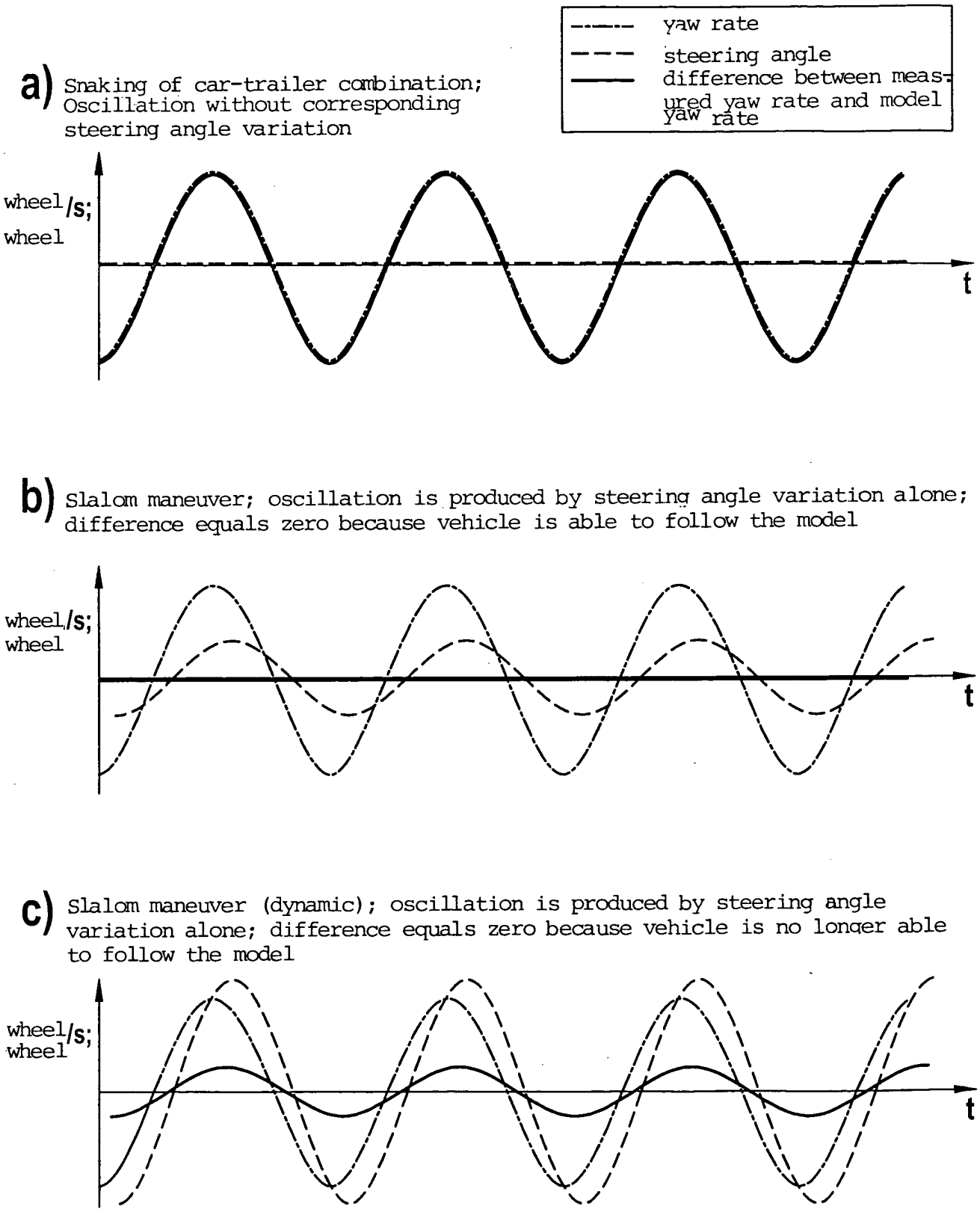


Each half wave is analysed:

- **Amplitude** exceeds allowable threshold?
- **Amplitude** decreases too much?
- Is half wave length in the permitted range **? (=> Frequency~0.5 to 1.5 Hz)**
- Does half wave length change too much **?**

Fig. 2

Fig. 3


yaw rate
steering angle
difference between measured yaw rate and model yaw rate
a) Snaking of car-trailer combination; Oscillation without corresponding steering angle variation
wheel/s; wheel
t
b) Slalom maneuver; oscillation is produced by steering angle variation alone; difference equals zero because vehicle is able to follow the model
wheel/s; wheel
t
c) Slalom maneuver (dynamic); oscillation is produced by steering angle variation alone; difference equals zero because vehicle is no longer able to follow the model
wheel/s; wheel
t

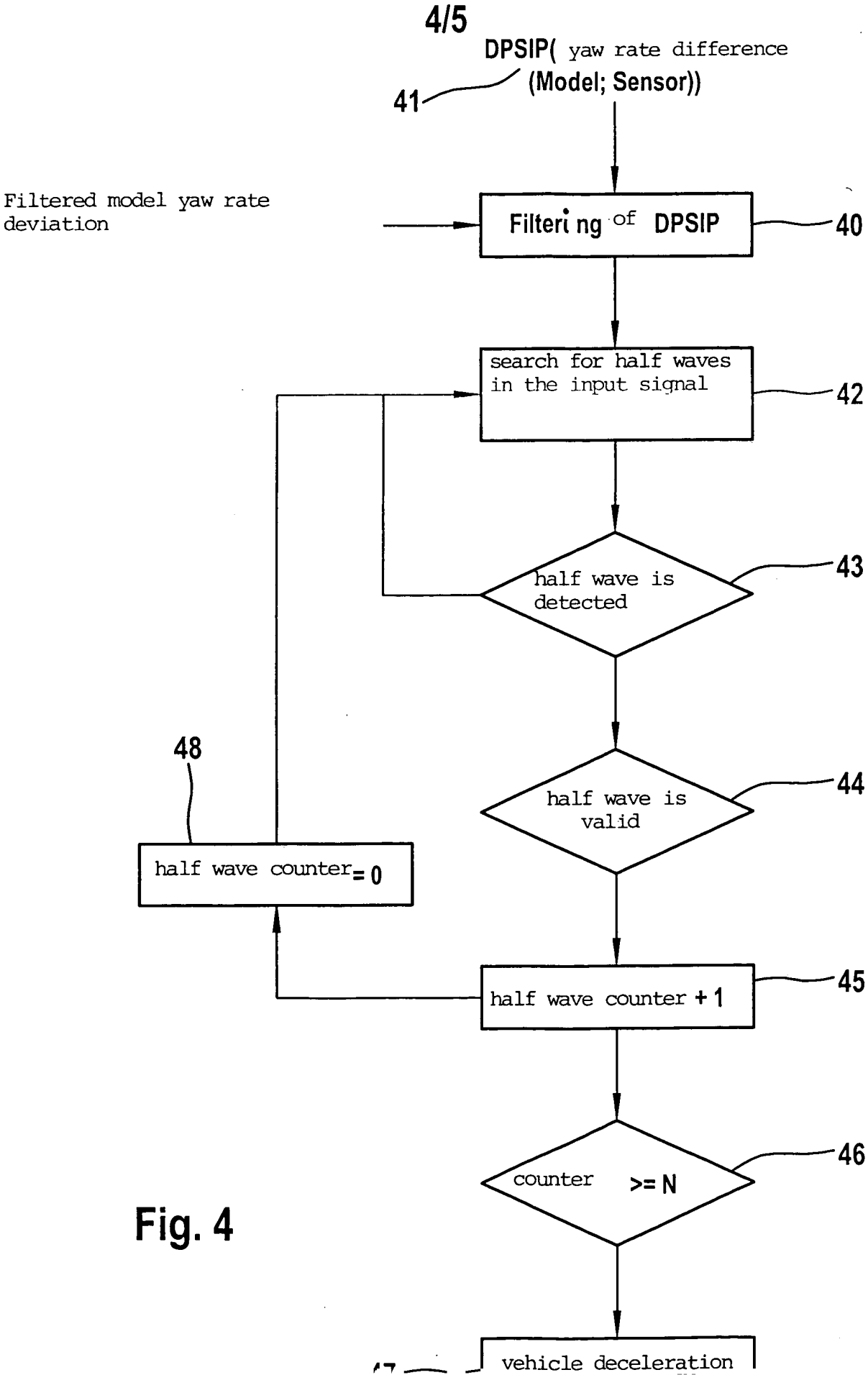
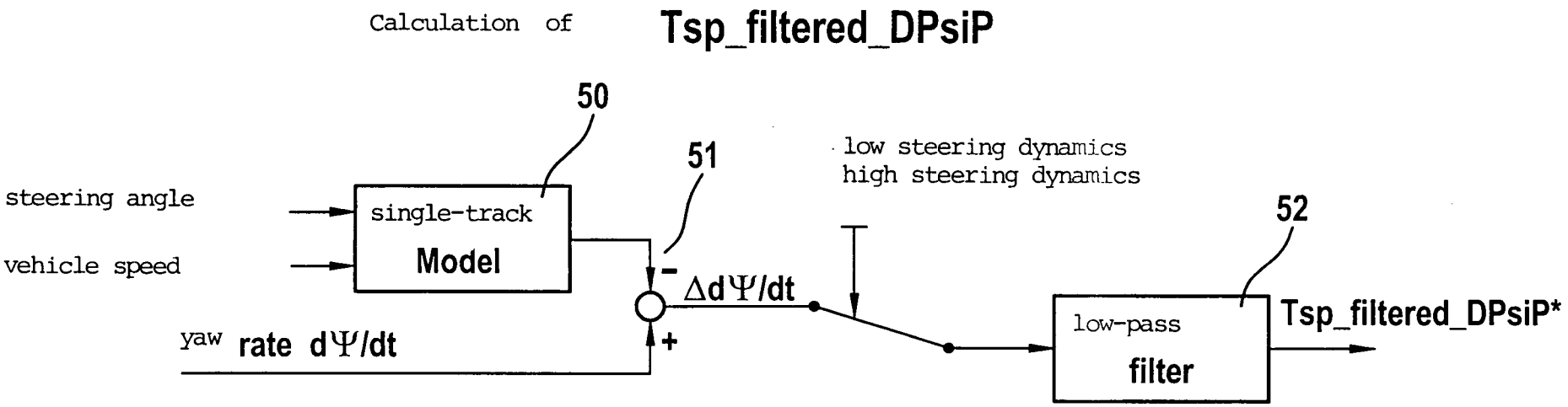


Fig. 4



- Deviation is calculated from the measured yaw rate and the model yaw rate.
- Spurious detection is prevented at high steering dynamics.
- Irrelevant frequency components (~1.5Hz) are filtered out.

Tsp_filtered_DPsiP is the main detection signal.

Fig. 5

* DPsiP: Δdψ/dt